CLAIMS

1. A method of artifact rejection comprising:

(a) receiving a signal;

(b) splitting the signal into a noise component and a signal component;

(c) calculating a noise power from the noise component;

(d) based on the calculated noise power, storing the noise component in one of a plurality of noise buffers and the signal component in a corresponding one of a plurality of signal buffers;

(e) repeating steps (a) through (d);

(e) selecting a combination of the plurality of noise buffers having a lowest noise power;

(f) calculating a signal power from a combination of signal buffers corresponding to the selected combination of noise buffers; and

(g) calculating a signal to noise ratio from the signal power and the lowest noise power.

2. The method of claim 1 further comprising counting the number of noise and signal components stored in each of the plurality of noise buffers and signal buffers, respectively.

3. The method of claim 1 further comprising comparing the calculated signal to noise ratio to a predetermined value.

4. The method of claim 3 further comprising performing a function if the calculated signal to noise ratio is greater than the predetermined value.

5. The method of claim 3 further comprising performing a function if the calculated signal to noise ratio is less than the predetermined value.

6. The method of claim 1 wherein the signal comprises at least one response to at least one stimulus, and each stimulus comprises a plurality of points.

7. The method of claim 6 wherein each stimulus comprises 1024 points.

8. The method of claim 1 wherein each of the plurality of noise and signal buffers respectively comprise eight buffers.

9. The method of claim 1 wherein the method is employed in one of a DPOAE test, a TEOAE test, a BAER test, an ultrasound operation, an MRI operation, a RADAR operation, a GPS operation, an EEG operation, an EKG operation, or a communications operation.

10. The method of claim 1 wherein splitting the signal into a noise component and a signal component comprises taking the discrete Fourier transform of the signal.

11. The method of claim 11 wherein seven different frequencies are employed.

12. The method of claim 1 wherein the signal comprises one of at least one stimulus or at least one response to at least one stimulus.

13. The method of claim 1 further comprising discarding the signal if the noise power of the noise component does not fit within an acceptable range of any of the plurality of noise buffers.

14. A method of artifact rejection comprising:

(a) receiving a signal;

(b) calculating a noise power from the signal;

(c) based on the calculated noise power, storing the signal in one of a plurality of buffers;

(d) repeating steps (a) through (c);

(e) selecting a combination of the plurality of buffers having a lowest noise power;

(f) calculating a signal power based on the selected combination of buffers; and

(g) calculating a signal to noise ratio from the calculated signal power and the lowest noise power.

15. The method of claim 14 further comprising counting the number of signals stored in each of the plurality of buffers.

16. The method of claim 14 further comprising comparing the calculated signal to noise ratio to a predetermined value.

17. The method of claim 16 further comprising performing a function if the calculated signal to noise ratio is greater than the predetermined value.

18. The method of claim 16 further comprising performing a function if the calculated signal to noise ratio is less than the predetermined value.

19. The method of claim 14 further comprising discarding the signal if its calculated noise power does not fall within one of a plurality of acceptable noise power ranges corresponding to respective ones of the plurality of buffers.

20. The method of claim 14 wherein the signal comprises one of at least one stimulus or at least one response to at least one stimulus.

21. A method of artifact rejection comprising:

(a) receiving a signal;

(b) calculating a noise power from the signal;

(c) based on the calculated noise power, storing the signal in one of a plurality of buffers;

(d) repeating steps (a) through (c); and

(d) selecting a combination of the plurality of buffers having a lowest noise power.

22. The method of claim 21 further comprising calculating a signal power based on the selected combination of buffers.

23. The method of claim 21 further comprising discarding the signal if its calculated noise power does not fall within one of a plurality of acceptable noise power ranges corresponding to respective ones of the plurality of buffers.

24. The method of claim 21 further comprising analyzing the signals based on the selected combination of buffers.